FlyBy Math™ Alignment
Maine Mathematics Grade Level Expectations Spring 2004

Cluster 1 – Numbers and Operations

A. Numbers and Number Sense

Grade Level Expectations	*FlyBy Math*™ Activities
M1A3.8 Apply concepts of ratios, proportions, percents, and number theory (e.g. primes, factors, and multiples) in practical or other mathematical situations.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates.

B. Computation

Grade Level Expectations	*FlyBy Math*™ Activities
M1B2.8 Create, solve, and justify the solution for multi-step, real-life problems including those with ratio and proportion.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system.

Cluster 2 – Shape and Size

E. Geometry

Grade Level Expectations	*FlyBy Math*™ Activities
M2E3.8 Use a coordinate system to define and locate position.	--Plot points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system to describe the motion of two airplanes.

F. Measurement

Grade Level Expectations	*FlyBy Math*™ Activities
M2F2.8 Develop and use concepts that can be measured directly, or indirectly (e.g., the concept of rate).	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation. --Use the distance-rate-time formula to predict and analyze aircraft conflicts.

Cluster 4 - Patterns

G. Patterns, Relations, and Functions

Grade Level Expectations	***FlyBy Math*™ Activities**
M4G1.8 Describe and represent relationships with tables, graphs, and equations.	--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes. --Represent distance, speed, and time relationships for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system.
M4G3.8 Use patterns and multiple representations to solve problems.	--Use tables, graphs, and equations to solve aircraft conflict problems. --Represent distance, speed, and time relationships for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system.

H. Algebra Concepts

Grade Level Expectations	***FlyBy Math*™ Activities**
M4H3.8. Analyze tables and graphs to identify properties and relationships in a practical context.	--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.